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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,999	08/21/2003	Mark McDowell	LEW 17, 484-1	8671

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EXAMINER

PRITCHETT, JOSHUA L

ART UNIT PAPER NUMBER

2872

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/645,999

Applicant(s)

MCDOWELL, MARK

Examiner

Joshua L. Pritchett

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 May 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5, 7-14 and 16-33 is/are pending in the application.
- 4a) Of the above claim(s) 27-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14, 16-26 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

This action is in response to Amendment after non-final rejection filed May 17, 2005.

Claims 1-5, 7-14, 16-18 and 22-25 are amended and claims 6 and 15 are cancelled as requested by the applicant.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-5, 7-10, 12-14, 16-18 and 20-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Greenwald (US 6,330,106).

Regarding claims 1, 10 and 18, Greenwald discloses a machine vision system comprising a video microscope (Fig. 1) comprising a holder (10) for specimens (34) and a camera located so as to be focused on the holder (col. 6 lines 1-13), a light source operatively connected to the video microscope (col. 4 lines 44-45), a robotic system operatively connected to and for positioning the video microscope (col. 6 lines 15-25), and a computer operatively connected to both the camera and the robotic system (Fig. 1; col. 6 lines 4-9) the computer having operating programs comprising machine vision techniques for autonomous scanning (col. 6 lines 5-10) and

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detecting (col. 5 lines 9-11) features of the specimen. Greenwald discloses saving images collected from viewing the specimen (col. 6 lines 5-10) along with the location of the images (col. 6 lines 5-10) the machine vision techniques include routines for adaptive neural networks that operatively control the robotic system (64). The examiner considers saving the image and the location of the image to be a system of tracking features of the specimen. Greenwald teaches the microscope assembly can autonomously scan an area after having the area specified by the user. A human brain is considered an adaptive neural network which controls the robotic system using the user controls, which have computerized routines that are initiated by the user controls actuation.

Regarding claims 3, 12 and 20, Greenwald discloses the camera has charge-coupled devices comprising its head and which are operatively connected to the computer by an image acquisition board (col. 6 lines 2-5).

Regarding claims 4, 13 and 22, Greenwald discloses the operating programs further comprise routines for controlling the robotics system, which, in turn, controls positioning of the video microscope, which, in turn, controls the positioning of the camera (Fig. 1; col. 6 lines 1-14).

Regarding claims 5, 14 and 23, Greenwald discloses the operating programs further comprise algorithms which operatively cooperative with the routines for scanning, identifying, detecting and tracking selected characteristics and features of the specimen (col. 5 lines 9-11; col. 6 lines 5-10). The storage of images and locations in the memory would require the use of algorithms.

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Regarding claims 7, 16 and 21, Greenwald discloses the robotic system provides three-dimensional positioning of the video microscope, which, in turn, provides three-dimensional positioning of the specimen held in the holder (Fig. 2).

Regarding claims 8 and 17, Greenwald discloses the robotic system comprising a platform (12) for holding and orienting the video microscope (Figs. 1 and 2).

Regarding claim 9, Greenwald discloses the computer comprises a display terminal (60; Fig. 1).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenwald in view of Knebel (US 6,388,807).

Greenwald teaches the invention as claimed but lacks reference to a fiber optic light source. Greenwald teaches the use of a laser light source in a confocal scanning microscope. Knebel teaches the use of an optical fiber associated with a laser light source for use in a confocal scanning microscope (col. 3 lines 1-5). It would have been obvious to a person of

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ordinary skill in the art at the time the invention was made to have the Greenwald invention include a fiber optic light source as taught by Knebel for the purpose of expanding the functionality of the Greenwald microscope to include multiple light sources having different wavelengths.

Claims 24-26 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greenwald in view of Abdel-Fattah (US 2004/0218798).

Greenwald teaches the invention as claimed but lacks reference to the use of colloid hard spheres. Abdel-Fattah teaches placing a colloid hard sphere specimen having a solid/liquid interface in the holder (abstract), causing the video microscope to generate an electronic image of the colloid specimen (Fig. 8), examining the electronic image to determine the origin size of pixels representing particles (para. 0088), examining the frame of the electronic image to determine if the solid/liquid interface has horizontal or vertical crystal growth (para. 0192), generating a series of frames of the electronic images (Fig. 8), performing averaging of the frames to visually separate solid and liquid portions of the electronic image (abstract), examining the electronic image to identify the solid and liquid portions of the specimen (Fig. 8) and storing the data in a data base associated with the colloid specimen (Fig. 8). Abdel-Fattah lacks specific reference to the use of dilation and threshold algorithms, however Abdel-Fattah does teach that calculations are performed on the saved electronic images (Fig. 8). The type of calculations performed would depend on the preference of the operator and one of ordinary skill in the art would readily recognize the need to perform both dilation and threshold calculations on the saved images. Greenwald further lacks reference to superimposing other data onto the saved

image. It is extremely well known in the art to use superimposition to display relevant data on an image of a video microscope for the purpose of quicker and easier viewing and evaluation of the observed image. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the Greenwald invention include hard colloid spheres as a specimen and the associated calculations as taught by Abdel-Fattah for the purpose of determining the composition of an emulsion sample. It would also have been obvious to one of ordinary skill in the art at the time the invention was made to have the Greenwald invention include superimposition of calculated data onto the observed image as is known in the art for the purpose of easy evaluation of the observed image.

### *Response to Arguments*

Applicant's arguments filed May 17, 2005 have been fully considered but they are not persuasive.

On pages 17 and 18 of Amendment, applicant argues that Grenwald is devoid of discussion of neural networks. Grenwald teaches that the microscope assembly is controlled used a user control panel (64). The user in Grenwald is a human which inherently has an adaptive neural network in the brain. Therefore Grenwald inherently teaches the use of a neural network to control the robotic system of the microscope.

On page 18 of Amendment, applicant argues that the current invention does not require the several of the features of Grenwald. The use of the term, "comprises," allows for the prior art to have additional features that are not explicitly listed in the claim language. If the applicant

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wishes to restrict the features of the current invention to only those listed the examiner suggests the use of the phrase, "consisting of."

On page 18 of Amendment, applicant argues that the Grewald invention is not autonomous. Grenwald teaches that if the microscope assembly is given a specific section, the microscope can autonomously scan that section without user interference. The examiner holds that the Grenwald reference is therefore capable of autonomous scanning as claimed in the current claim language.

On pages 19-22 of Amendment, applicant argues that the secondary references fail to cure the deficiencies of the Grenwald reference and therefore the remaining claims are allowable. As previously stated the Grenwald reference does not have deficiencies based on the current claim language therefore these arguments are moot.

### *Conclusion*

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37



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CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L. Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP 



**DREW A. DUNN**  
**SUPERVISORY PATENT EXAMINER**